In the claims:

1. (currently amended) A ~~plastid transformation and expression~~ vector useful for transformation of a target plastid of a higher plant species, said vector comprising an expression cassette ~~which comprises an expression cassette~~ comprising as operably linked components, ~~a 5' part of the plastid DNA sequence inclusive of the spacer sequence,~~ a promoter operative in ~~said plastids~~the target plastid, a selectable marker sequence, at least one DNA sequence encoding at least [a]an immunologically active portion of an immunoglobulin ~~mutimeric~~multimeric chain, ~~at least one DNA sequence encoding a chaperonin,~~ a transcription termination region functional in ~~said~~the target plastid, and ~~the 3'~~on each of the 5′ and 3′ ends of said expression cassette DNA sequences which are homologous to a part of the target plastid ~~DNA sequence~~ genome of a higher plant species.

2. (currently amended) The ~~plastid transformation and expression~~ vector of claim 1, wherein said immunoglobulin ~~mutimeric~~ multimeric chain comprises a heavy chain.

3. (currently amended) The ~~plastid transformation and expression~~ vector of claim 1, wherein said immunoglobulin ~~mutimeric~~ multimeric chain comprises a light chain.

4. (currently amended) The ~~plastid transformation and expression~~ vector of claim 1, wherein said immunoglobulin ~~mutimeric~~ multimeric chain comprises both a heavy and a light chain.

5. (currently amended) The ~~plastid transformation and expression~~ vector of claim 1, wherein said immunoglobulin ~~mutimeric~~ multimeric chain comprises a single-chain variable fragment (scFv).

6. (currently amended) The ~~plastid transformation and expression~~ vector of claim 1, wherein said immunoglobulin ~~mutimeric~~ multimeric chain comprises a heavy chain constant region fused to an operative ligand.

7. (currently amended) The ~~plastid transformation and expression~~ vector of claim 4, wherein said heavy and light chains are separated by a linker comprising ~~an intervening~~ a stop codon and a ribosome binding site.

Claims 8-27 (canceled)

28. (currently amended) A method for ~~introducing DNA encoding~~producing immunoglobulin ~~mutimeric~~multimeric ~~chain coding sequences into~~protein in a plastid, said method comprising:

introducing a plastid expression vector into a plant cell[,] of a higher plant species having a target plastid ~~expression vector adsorbed onto a microprojectile~~,

said plastid expression vector comprising as operably linked components[,]

a DNA sequence containing at least one plastid replication origin functional in [a]the target plastid,

a transcriptional initiation region functional in [a]the target plastid,

at least one heterologous DNA sequence encoding at least [a]an immunologically active portion of an immunoglobulin ~~mutimeric~~multimeric chain,

~~at least one DNA sequence encoding a chaperonin~~ and

a transcriptional termination region functional in ~~said cells~~the target plasmid, whereby said heterologous DNA is introduced into [a]the target plastid in ~~said~~the plant cell; and wherein a multimeric immunoglobulin is produced.

29. (currently amended) The method of claim 28, wherein said immunoglobulin ~~mutimeric~~multimeric chain comprises a heavy chain.

30. (currently amended) The method of claim 28, wherein said immunoglobulin ~~mutimeric~~multimeric chain comprises a light chain.

31. (currently amended) The method of claim 28, wherein said immunoglobulin ~~mutimeric~~multimeric chain comprises both a heavy chain and a light chain.

32. (currently amended) The method of claim 28, wherein said immunoglobulin ~~mutimeric~~multimeric chain comprises a single-chain variable fragment (scFv).

33. (currently amended) The method of claim 28, wherein said immunoglobulin ~~mutimeric~~multimeric chain comprises a heavy chain constant region fused to an operative ligand.

Claims 34-50 (canceled)